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REMARKS

The Office Action mailed October 23, 2002 has been carefully considered.

Claims 1, 3 and 11 have been rejected under 35 USC 112, 2nd paragraph, as being indefinite, on the basis that it is not clear if the porosity and pore diameter relate to the particles of the bed or to the interstices.

The definition of porosity is given on page 2 of the specification, lines 18-23, where it is stated:

"Porosity, which corresponds to the porous volume of the grains of the bed (surface porosities and internal porosities)... it is due to pores of a diameter essentially greater than 10 µm and generally less than 200 µm in order to maintain good resistance to erosion."

Thus, the porosity recited in the claims is the porosity of the grains, not the interstices. In order to properly define the porosity, claim 1 has been amended to recite that the bed is formed from grains having an open porosity between 5 and 30%.

Withdrawal of this rejection is requested.

Claims 1, 2, 4-6, 8 and 9 have been rejected under 35 USC 102(b) over Rieger et al.

The Office Action alleges that Rieger et al discloses passing liquid metal through a bed of refractory particulate

material having an open porosity between 5 and 30%. Applicants disagree with this allegation, because Rieger et al does not disclose passing liquid metal through a "bed of particulate material." Rather, the filter of Rieger et al is filter plate (col. 2, line 24) in which the particles of refractory material are bonded together (col. 2, lines 25-27). It is the porosity of the plate, referred to as "through flow porosity" at col. 2, line 35, which is 20 to 35%, not the porosity of the individual grains.

Since Rieger et al does not disclose filtering liquid metal through a bed of *particulate* material, and does not disclose the porosity of the grains which is claimed, withdrawal of this rejection is requested.

Claims 3 and 11 have been rejected under 35 USC 102(b) over Takashima.

Takashima is alleged to disclose filter liquid metal through a bed of refractory particulate material with an open porosity between 5 and 30%, and a pore size between 20 and 200 microns.

Takashima discloses a filter medium made of sintered pelletized spheroids, in which the method for forming the filter medium is discussed at col. 2, lines 22-29, and which involves mixing aggregates with binder and water, charging into a mold, drying and burning. The material is specifically

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defined as sintered at col. 1, line 57, and in claim 1. The filter medium is clearly not a particulate bed.

Moreover, the porosity defined is that of the filter medium; see col. 3, lines 35-40. The porosity defined does not relate to the grains from which the filter is formed.

Since Takashima does not disclose filtering liquid metal through a bed of *particulate* material, and does not disclose the porosity of the grains which is claimed, withdrawal of this rejection is requested.

Claim 7 has been rejected under 35 USC 103 over Rieger et al in view of Neidhardt et al.

The Office Action alleges that Rieger et al discloses a method for making corundum particles including extrusion from electrofused alumina, but does not disclose casting, cooling, crushing and screening, for which Neidhardt et al has been cited.

Applicants note initially that Rieger et al does not disclose or suggest extrusion of electrofused alumina at col. 3, lines 37-45; this section relates only to known methods of producing spheres of alumina, including roll granulation, spray granulation, or atomizing and sintering. Extrusion of electrofused alumina is not mentioned.

Neidhardt et al does disclose the manufacture of electrofused corundum, for applications including

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cataphoresis, bioceramics, electroceramics and abrasives (col. 1, lines 31-37). Filtration properties of corundum and filtration of liquid metal are not mentioned by Neidhardt et al, and filtering liquid metal through a *bed of particulate material* is not disclosed by Rieger et al.

Accordingly, the combination of references does not arrive at the claimed invention, and withdrawal of this rejection is requested.

In view of the foregoing amendments and remarks, Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,

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APPENDIX

IN THE CLAIMS:

1. (Twice Amended) A filtration method for liquid metal comprising passing said liquid metal [on] through a bed of refractory particulate material formed from grains having an open porosity between 5 and 30%.

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